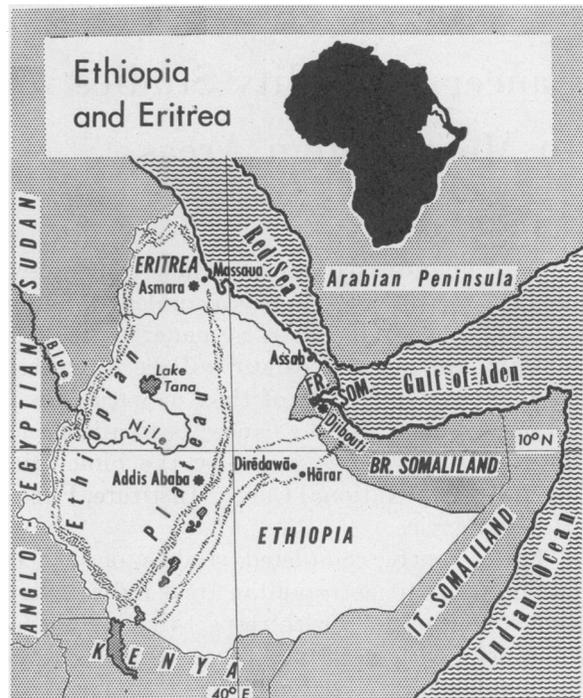


# Mapping a Program Of Public Health For Ethiopia And Eritrea

By HENRY R. O'BRIEN, M.D., M.P.H.



Historically significant because of its fierce resistance to political and cultural invasion for 16 centuries, Ethiopia is today undergoing many crucial changes . . . Being officially welcomed are scientists, teachers, and health workers from other lands, who seek to introduce to this country the benefits of modern advances in medicine and public health . . . One of these public health workers reports his field observations on some of the health problems he found and some of his suggestions for their solution.

**E**THIOPIA and Eritrea—politically independent, and since September 1952 federated by a decision of the United Nations General Assembly—are experiencing the ferment that has enveloped all Africa.

Both countries lie historically and geographically between the world of the Arabs, the eastern Mediterranean Sea, and equatorial Africa. Together, they form a rich agricultural reservoir of grain, cattle, and coffee.

In May 1951, a representative of the Technical Cooperation Administration (now a part of the Foreign Operations Administration) visited Ethiopia to discuss cooperative programs. Soon afterward, the Imperial Government of Ethiopia, through the American

Embassy in Addis Ababa, invited the Public Health Service of the United States to send a representative to Ethiopia to “recommend a specific project for public health preventive measures.”

This report is an accounting of the observations of health conditions in Ethiopia and Eritrea and the recommendations which were made.

## The Land and the People

Situated in the northeast corner of Africa, Ethiopia, known also as Abyssinia, is more than a third larger than the State of Texas. Its population is between 10 and 20 million.

Most of the country lies on a high plateau, reaching as high as 9,000 feet above sea level, and rising in sharp escarpments from the plains on the east and west and more gradually on the north and south. The plateau has been cut in deep gorges by the erosion of the Blue Nile, its tributaries, and other rivers, and is divided by the great Rift Valley.

The country is largely deforested. Heavy rains come in June through September, with lighter rains in February and March. Temperatures at 8,000 feet may fall from a high of 85° F. during the day to 40° F. in the early morning.

The size of the State of New York, Eritrea lies on the northern tip of the Ethiopian plateau. The high land gives way to an intermediate level on the east and west and then finally to the deserts of the Sudan (on the west) and to the narrow coastal plain along the Red Sea.

There is less water in Eritrea and more deforestation than in Ethiopia. Eritrea is a little warmer. Its roads and communications are noticeably better than those to the south in Ethiopia. Grains are the chief crop on the plateau, and some coffee is grown there. Cotton is raised in the western section. The people number between 1.2 and 1.8 million.

The ancestors of the Ethiopians came from southwest Arabia some 3,000 years ago, but the original Semites intermarried extensively with the Hamitic or Berber strains of northern Africa. Conquered negroid tribes are found in the south and west.

Some 40 languages are spoken in Ethiopia. Amharic is the first official tongue, and English the second. In Eritrea, the official languages are Arabic and Tigrinya, which is related to Amharic. In both countries, instruction in the schools, beginning with the fifth grade, is in English.

Ethiopia has long been a part of the eastern Mediterranean world—ever since Greek vessels sailed down the Red Sea. Christianity was first introduced in 350 A.D., and a Coptic Church developed, which has maintained itself in sturdy independence for 16 centuries. From the eighth century on, Moslem waves swept over much of the surrounding area and threatened Ethiopia again and again. Isolated by its

fiercely hostile neighbors, Ethiopia was known to Europe only through rumors as the "land of Prester John," the legendary medieval priest and king. Today, the people of both Ethiopia and Eritrea are Copts, Moslems, or pagans. These groups live together harmoniously.

In the European rush for territory in Africa during the late 1800's, Eritrea came under Italian control. Ethiopia was threatened with conquest too, but it remained independent until the Italian seizure in 1936. East Africa was liberated by British and other Allied armies in 1941. As a result of the long Italian occupation and the later British administration, the Eritreans are today more accustomed to Western ways than are the Ethiopians.

For the past century, the influence of the West has been increasingly felt in Ethiopia. Even when he was regent (from 1916 to 1930), Haile Selassie had started plans for the modernization of his country. His efforts were intensified on his coronation as Emperor in 1930. On his return from exile in 1941 after Ethiopia's liberation, the process began anew. The Emperor stresses education as the basis for general progress. He believes that advance must take place gradually on an even front—in health, education, agriculture, communications, and in-

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*Dr. O'Brien bases his observations in this field report on the 3½-month survey of Ethiopia and Eritrea which he made in the latter part of 1952. Now a special assistant in Region III (Washington, D. C.) of the Department of Health, Education, and Welfare, Dr. O'Brien was formerly chief of the educational programs branch of the Division of International Health, Public Health Service.*

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*The pictures in this field report are photographs taken by Dr. O'Brien.*

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dustry. It is heartening to note Ethiopia's progress in recent decades.

It is not so long since the 12 provinces of Ethiopia, although giving allegiance to the Emperor, were largely autonomous, each with its own overlord and his subchiefs. As may happen in the evolution of government, power is now highly centralized. The Emperor makes the major decisions. Within a governmental department, the decisions are made either by its minister or by his director-general. The parliament, which is an appointive body, has been given some functions. The larger towns in the provinces are municipalities with authority to levy some local taxes. Their mayors are appointed.

There are the beginnings of industrialization in Addis Ababa, the capital of Ethiopia. The cotton mill at Dirēdawā employs 1,200 workers. A Dutch sugar plantation near Nazareth, 50 miles east of Addis Ababa, employs 2,700 Ethiopians. The great majority of the people, however, are farmers who live in tukuls, which are huts made of poles plastered with mud and roofed with thatch. The farmers use oxen to plow their fields. Large herds of cattle are raised for local consumption or as evidence of wealth. Coffee is the leading export, and hides are the second. Gold mines exist, but their output is not publicized.

### **Mapping a Program**

Following briefing in Washington, D. C., by the Foreign Service Institute and the Technical Cooperation Administration, more information was obtained in Geneva and Alexandria, headquarters and regional office of the World Health Organization.

The first days in Ethiopia were spent in planning a schedule of observation and consultation. Contacts were made with the Ministry of Public Health, with the Ministry of Education, and with the Central Planning Board of the Imperial Government, which passes on all programs of cooperation with outside agencies, and with personnel of TCA and the American Embassy.

Five field visits by jeep, diesel train, or plane were made to representative communities in 7 of the 12 provinces. Visits were made to hos-

pitals, leprosariums, dresser stations, community water supplies, schools for the blind, and to a prison. Calls were made on provincial governors, mayors, physicians, nurses, educators, and missionaries. "What do you think are the leading health needs of your area? How could they be met?" were among the questions put to them. Field observations and impressions were discussed with the Swedish adviser in public health and with the representative of the World Health Organization.

What are Ethiopia's needs in public health in the next 10 years? What is the order of priority? What steps are practical now? What does the Government itself want to do? How can this be made a part of a sound program? What is financially feasible, both for the Government and for the outside organization? Is the work likely to be continued when outside aid stops? What are the leading health needs in each province or municipality? How could they be met? These were typical of the questions to be considered in traveling about the country.

### **Ethiopia: Vivid Contrasts**

There are wide contrasts in Ethiopia today. Young men are observed reading books or newspapers at the library of the United States Information Service in Addis Ababa. One notices the neat stone schoolhouse built in a provincial town by the Ethiopian Ministry of Education. Under a tree in a Coptic churchyard, three boys are reading aloud from a copy of the Psalms which was handwritten on pages of vellum. Other boys, clad in skins above their bare legs, herd cattle home through the chill dusk toward the mud-walled tukuls on a hill. They will probably never go to school. Only about 1 person in 200 of all the people in Ethiopia is enrolled in any school today.

At the airfield of a provincial town, a group of Ethiopians were waiting to fly 80 miles to the next stop. This trip would otherwise have taken a week on foot, perhaps a little less on muleback. Their destination was well beyond the strategic Italian-built roads radiating from Addis Ababa. A railroad climbs up to the capital from Djibouti in French Somaliland on the Red Sea. There is a telegraph

system in Ethiopia, and Addis Ababa has telephones and a radio station.

At a weekly market, to which people walk from miles around, a vendor may be seen selling little measures of salt brought up from the desert plains along the Red Sea. Another sells factory-wrapped cakes of soap of a well-known brand. Hand-forged spearheads are displayed in another part of the market and both foreign and domestic cloth in still another.

Some 15 communities, from the capital of Ethiopia to a small village, have public water supplies. Most of these are inadequate, and equipment is wearing out. Otherwise, the housewife carries water, often over long distances, in a clay jar from a spring or stream or waterhole. There are some septic tanks and pit privies in Addis Ababa. The municipality also collects rubbish. Harār has a few public comfort stations.

### Health Conditions in Ethiopia

Although there are no epidemics at present in Ethiopia, the country is steadily drained by major endemic diseases. Syphilis and malaria, gonorrhoea and the pneumonias seem to be the most prevalent. In the highlands, malaria follows the end of the rains. Lower down, it is endemic. Louseborne typhus is widespread: 8 cases were noted in 1 ward of a 100-bed hospital. Flea- and tick-borne typhus are also present. Relapsing fever is endemic. Amebic and bacillary dysentery are prevalent. Cerebrospinal meningitis appears in local epidemics from time to time. Tuberculosis is a serious problem and has increased since the Italian occupation. One estimate for the number of leprosy cases is 15,000.

Next to syphilis, wounds are the condition most frequently reported by the clinics. Trachoma, conjunctivitis, tropical sores, and rheumatic conditions follow. There is general malnutrition resulting from deficient diets and from periodic fasting. Some maternal deaths occur, most frequently from hemorrhage. Infant mortality is high. The village midwife is strangely absent in Ethiopia, but some training in midwifery has started in Addis Ababa. Instruction began in Asmara (Eritrea) some years ago. Scabies is widespread.

### Ethiopia's Health Services

Public health first took a definite place in the Government of Ethiopia in 1942 as a bureau in the Ministry of the Interior. In 1947, the bureau became the Ministry of Public Health, which today is the center of health work in Ethiopia. The effectiveness of a health unit is measured by its organization, its program, its personnel, and its budget. Studied in each of these phases, Ethiopia has made distinct beginnings, but the country still has pressing needs.

The existence of a Ministry of Public Health is in itself a distinct achievement. There are now an acting Minister of Health and an experienced Director-General who handle administration for the Ministry. A Swedish physician with the title of Inspector-General serves as adviser to the Ministry. He is a trained public health worker who is devoted to Ethiopia. He speaks both Amharic and Galla. There are at present no Ethiopians in the country who are doctors of medicine. The Ministry has on its staff only 2 Ethiopian workers who are trained in public health: 1 had training in sanitation, and the other in statistics.

In the central office of the Ministry, there are separate bureaus handling administration, sanitation, statistics, foreign quarantine, and medical services. The bureau of medical services operates most of the hospitals in the country, either directly or by contract with one of the foreign missionary groups. The curative work of the Ministry, functioning through the hospitals, is at present its leading activity. Ethiopia has 38 hospitals with 2,315 beds (0.15 per 1,000 estimated population) and 3 leprosariums with 800 patients. There are some 80 physicians in Ethiopia, all foreigners, or 1 per 200,000 people.

The Ministry of Public Health places little emphasis on preventive medicine, although a good central laboratory for vaccine production and research and diagnostic work is developing in the Pasteur Institute of Ethiopia, an autonomous organization technically supervised by the Pasteur Institute of Paris under a contract with the Ministry of Public Health. The Institute also operates an anti-epidemic service, a function which gives it nominal supervision



**(Left)** Tukuls in a typical Ethiopian village near Addis Ababa. Graduates of the proposed school for medical assistants will serve people living in such communities. Eucalyptus trees like those in the background were introduced to Ethiopia in the nineties and now furnish firewood for the country.

**(Center)** Countrymen at a weekly market in Ethiopia. They are wearing Ethiopian shammis draped over Western khaki garments.

**(Right)** Part of the quadrangle at University College in Addis Ababa. The buildings house classrooms, well-equipped laboratories, and dormitories. 1952-53 enrollment was 100. Students can prepare for careers in medicine, veterinary science, dental surgery, pharmacy, agriculture, biology, and public health; also given are courses in arts and engineering.

over the venereal disease survey and control work in Ethiopia now conducted by the World Health Organization and over the BCG vaccination and tuberculosis control campaigns planned by WHO for 1953.

The Ministry is responsible for foreign quarantine at airports of entry at Asmara (in Eritrea) and at Addis Ababa and Dirēdawā (in Ethiopia) and at the newly acquired Eritrean seaports of Massaua and Assab.

It is a definite policy of the Government to charge fees for medical services. There is machinery for securing free medical care for the sick who cannot pay, but it does not always operate effectively.

The medical director of the leading hospital in each province is also appointed as health officer of the province, but he usually has only a clinical background and gives little supervision to health work, especially in the outlying villages. The municipality of Addis Ababa has the only full-time local health officer in Ethiopia.

There are no vital statistics available in Ethiopia although some municipalities are beginning to register births and deaths. Hospitals and dispensaries make weekly or monthly reports to the Ministry of Public Health on the people who come for treatment.

Disease outbreaks are usually reported to the governor of the province who, in turn, informs the Ministry of Public Health immediately. The Ministry will then request the Pasteur Institute to send an anti-epidemic team to the epidemic area. Each province has a varying number of dresser stations operated by men of little or no formal education who have been taught how to give first aid and how to use simple medicines.

In the Ministry of Public Health there is a medical advisory council to which a small number of foreign health workers, usually physicians, are appointed, and to which are referred matters of policy and disciplinary questions involving foreign physicians. It also receives applications for licensure from physicians, nurses, pharmacists, dentists, sanitary engineers, and others, and submits its recommendations to the Ministry. A subcommittee of the council serves as a medical education board which approves curriculums for nurses, dressers, sanitary inspectors, and others.

The Ministry of Public Health receives technical assistance from the World Health Organization under a basic agreement signed in July 1951. The Ministry feels that any program proposed by the Technical Cooperation Administration of the United States should be coordi-

nated with WHO programs. The World Health Organization has given 22 fellowships to send Ethiopian health workers abroad. In the fall of 1952, WHO personnel in Ethiopia included a public health administrator, a leprologist, and a venereal disease control team composed of a clinician, a serologist, and a nurse. Plans were being made for a WHO tuberculosis campaign in 1953.

### Allied Health Services

There are many health activities outside the Ministry of Public Health. The Ministry of Education has a school health service, and the army has several physicians and hospitals of its own. Sixteen of the 38 hospitals, 2 of the 3 leprosariums, and numerous clinics are operated by missionary groups—Protestant and Roman Catholic, European and American—frequently with government subsidy. The missionary physicians are competent and are usually public-health-minded.

Local voluntary groups include the Ethiopian Red Cross Society, which supports a nurse-training school and is planning a village health education project; the Ethiopian Women's Welfare Society, which maintains a clinic in Addis Ababa; and the Young Men's Christian Association, which includes some health education in its program. Ethiopian Christmas Seals are sold to help finance antituberculosis activities.

### Training Health Personnel

The problem of personnel, whether professional or subprofessional, is a pressing one in Ethiopia and faces every proposal for a public health program. After the liberation of the country from Italian control in 1941, a few Italian physicians were retained, and the Friends Ambulance Service and the British Red Cross began to train Ethiopians to meet some of their country's serious health needs.

A start was made in teaching dressers. Their work was labeled "first aid," but conditions frequently demanded much more than that. UNRRA (United Nations Relief and Rehabilitation Administration) workers emphasized the training of dressers in a standard 6-months' training course. The Interim Commission of

the World Health Organization, and later WHO itself, prepared detailed outlines for dresser courses. Today there are about 500 primary and specialized dressers, with or without certificates, and several hospitals are training students to take the dresser examinations given by the Ministry of Public Health. Ethiopia probably needs at least 2,000 dressers.

The UNRRA missions also started short courses for sanitary inspectors. The World Health Organization has continued them. A few X-ray and laboratory technicians are trained on an apprenticeship basis. In the hospitals, women ward attendants are usually given on-the-job instruction after they start work.

It is important that the training of sufficient professionals accompany the training of subprofessionals since experience the world over demonstrates that subprofessional workers need professional supervision to keep up their standards.

In 1949 and 1950, WHO made a fresh appraisal of the needs for medical personnel and concluded that it was time to consider the long-term training of professional leaders. Ten young men were sent to Kampala (Uganda), Alexandria (Egypt), and Beirut (Lebanon) for 6 or 8 years of training as physicians. Four young women were sent to Kampala for 3 years of training in nursing. Three young men were sent to Kampala in 1950 for instruction in sanitation, and three more were sent to Beirut in 1952. The British Red Cross, the Imperial Government of Ethiopia, and private families are supporting other students in medicine. The Kampala nurses and sanitary inspectors will graduate and return to Ethiopia this year.

As a result of long-term plans in Ethiopia and the stimulus of the World Health Organization, 1 school of nursing was opened in 1949, another in 1950, and 2 more in 1951. Two of these schools are in Government hospitals; 2 are in mission institutions; and 2 of the 4 train young men as well as young women. All plan to meet the standards of the International Council of Nurses. In December 1952, the 4 schools had 86 students. The 2 schools which opened in 1949 and 1950 graduated their first classes in March 1953. Although the schools have weaknesses and needs, basic nursing is well

established. The growth of basic nursing services will depend largely on the continued development of secondary education. Nurses are licensed by the Ministry of Public Health, and a nursing council is active under the medical education board.

Definite plans for local training of physicians are now under way. University College, which opened in Addis Ababa during 1950, accepts students who have passed the matriculation examination. It offers what seems to be a good premedical course and was to have been appraised by an accrediting committee from London in March 1953.

Meanwhile, funds have been collected from government workers to build the Haile Selassie I University in Addis Ababa. The university will have a faculty of medicine. A European businessman recently willed \$750,000 in Ethiopian currency (US\$300,000) for the new university. Bids have been invited for the first building which will include space for the first 2 years of a medical course. More than Eth\$3,500,000 is in the bank for this building. (Eth\$1.00 has an exchange value of US\$0.40.) Classes are planned to start in October 1955, and an enrollment of perhaps 8 students in the first year of medicine is expected.

There are 2 schools of dentistry in Addis Ababa, 1 under the Municipal Department of Health, the other under the sponsorship of the former Minister of Public Health. Neither school has much in the way of equipment, curriculum, or faculty. The teeth of Ethiopians are excellent, and the country has much more pressing health needs than the early development of dental education.

With plans made and training under way for physicians, nurses, and dressers, there is no present provision for an intermediate type of health worker, who has much more training than a dresser receives and less than is required for a physician, to assist the latter and supervise the former.

#### **Budget for Health**

The present budget for the Ministry of Public Health is Eth\$3,000,000 (US\$1,200,000). With this the Ministry maintains its hospitals and other health work. It is evident that if the Ministry is to furnish the preventive med-

ical and health services which the country so greatly needs, it must obtain additional funds. Ethiopia is at present operating within its means, aided by today's favorable price for coffee. Funds are being found for other worth-



(Top) A pumphouse of the municipal water system at Jimma (Ethiopia). About 15 communities in Ethiopia have public water supplies. Wells and springs are more common sources of drinking water.

(Below) Mother and child outside the municipal clinic at Asmara (Eritrea). Infant and prenatal care and other health services are provided at this clinic.

while projects in the Government. It is probable that when sound proposals are advanced by the Ministry of Public Health, with a prospect of professional and financial support from outside, approval of the Ministry of Finance and of the Emperor can be obtained.

### **The Recommendations**

After consideration of these and many other points, and after discussing them with the Swedish adviser to the Ministry and with the representative of the World Health Organization, a tentative program was outlined for specific public health measures in Ethiopia. This was gone over orally with the chief of the TCA mission in Addis Ababa, and with his approval was presented to the Director-General of Health and to the Director of the Central Planning Board. Their advice was sought and their reactions were noted for use in the final recommendations. The final report was addressed to the TCA chief for transmission to the Ministry of Public Health.

In substance, the program included five recommendations:

A demonstration health department and field training school for medical assistants to be set up in one of the provinces, with cooperative support in supplying both staff and equipment from the Ministry of Public Health, the Technical Cooperation Administration, and the World Health Organization.

Three health workers to be assigned by TCA for immediate needs—a sanitary engineer to work with the Ministry of Public Health to improve community water supplies, another to be stationed by the Ministry in the Addis Ababa Municipal Department of Health, and a health educator to be loaned by the Ministry of Public Health to the Ministry of Education for training of teachers in school health.

More fellowships abroad in professional fields where such training is not available in Ethiopia. Properly used, such fellowships can advance public health in Ethiopia by a good many years.

A limited amount of badly needed equipment and supplies for the schools of nursing, and medical journals and reference books for the hospitals.

A chief of the health section of the TCA mission to maintain contact with the Ministry of Public Health, the World Health Organization, and the Technical Cooperation Administration for coordinating the above activities and for supervising the smaller health programs requested by Eritrea. He would also aid in plans for the medical school.

### **Eritrea's Needs**

Only a week was available for a study of Eritrea, but that time permitted visits to the health institutions and to several schools in Asmara, and to a regional hospital, a health center, and a dresser station in the provinces.

A local government committee had worked out a possible health program with the TCA deputy director for Eritrea. It gave high priority to a request for schools of nursing, midwifery, and laboratory technique to be started at the 1,000-bed Civic Hospital in Asmara and also asked assistance in setting up a small leprosarium near Asmara.

As a result of the visit, the local requests were strongly indorsed as urgent steps, and suggestions were made for carrying them out as an interim program. One instructor was recommended for each of the three schools requested.

### **Acceptance of Proposals**

From the point of view of technical cooperation, a study not followed by operations is sterile. The proposed program for Ethiopia was submitted by the Technical Cooperation Administration in Ethiopia to the Ministry of Public Health. The proposals were considered by the Central Planning Board and finally were placed before the Emperor.

As a result of the Emperor's approval, an agreement for cooperation in the field of health was signed by the Technical Cooperation Administration and the Ministry of Public Health at the end of April 1953.

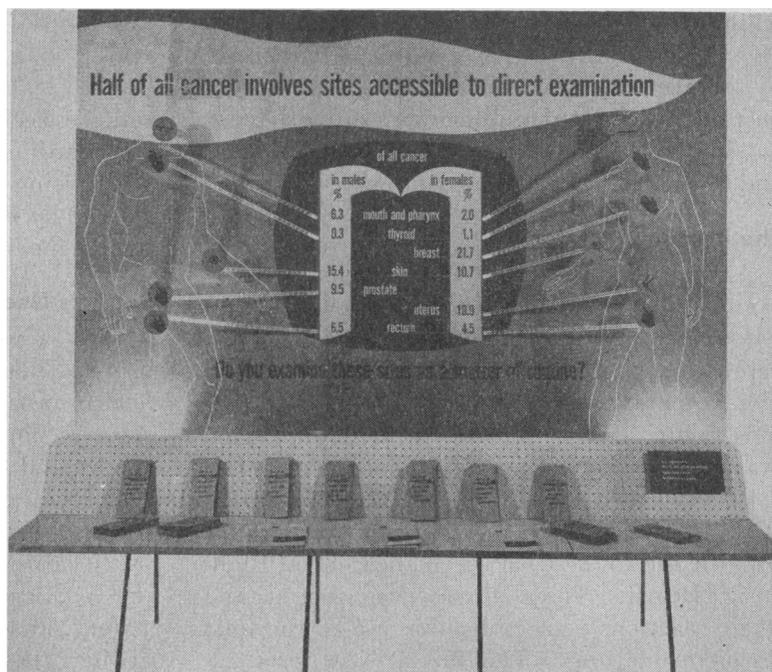
What changes will come to Ethiopia and Eritrea after the proposed health programs have been put into operation remain to be seen. The study of the two countries and the recommendations which followed it are an earnest effort to help both Ethiopia and Eritrea at a strategic period in their development.

### Cancer of Accessible Sites

"Half of all cancer involves sites accessible to direct examination," a new cancer control exhibit, was first shown at the annual meeting of the American Medical Association in New York City, June 1-5, 1953. Available for the use of medical societies, health departments, health associations, or any meetings of physicians, the exhibit is designed to encourage the early diagnosis of cancer. It points out to general practitioners the accessible cancer sites in both sexes and charts the percentages of all cancer occurring in these sites (see p. 975).

The exhibit has edge-illuminated, transparent male and female figures on a blue background. Easily assembled by one man, it has blinking lights and a shelf to accommodate publications. No transformer is necessary with a. c. current.

A threefold leaflet (Public Health Service Publication No. 324) is a facsimile of the exhibit.



Specifications: 1 panel 8 by 6 ft. in 2 sections; requires 8 ft. floor space and 1,000 watts a. c. Assembling instructions included with shipment. For loan, apply to: Cancer Reports Section, National Cancer Institute, National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare, Bethesda 14, Md. Borrowers must pay insurance and shipping costs both ways. Shipping weight 560 lbs.

### Rheumatic Fever Prevention

That "rheumatic fever is a recurrent disease which can be prevented" is stressed in an exhibit developed by the Public Health Service in cooperation with the American Heart Association. Based on the statement released in January 1953 by the Council on Rheumatic Fever and Congenital Heart Disease of the American Heart Association, the exhibit illustrates the pattern commonly observed in a typical case of rheumatic fever. It underlines the fact that year-round daily doses of sulfonamides or penicillin will prevent most recurrences of the disease.

Designed for professional audiences, the exhibit has been shown at the annual meetings of the American Academy of General Practice in St. Louis, Mo., the American Heart Association in Atlantic City, N. J., and the American Medical Association, New York.



Specifications: 1 panel 10 by 7 ft.; requires 10 by 6 ft. floor space; one 110 volt a. c. outlet. Assembling instructions provided. For loan, apply to: Division of Chronic Disease and Tuberculosis, Public Health Service, Department of Health, Education, and Welfare, Washington 25, D. C. Borrowers must pay insurance and shipping costs both ways. Shipping weight 300 lbs.